

Biotage® Extrahera™ LV-200 Installation and Familiarization Checklist

The following document will ensure that the installation is complete and that all installation steps and tasks have been performed. It will also provide guidelines for best practices and familiarization of the system after installation has been completed. The familiarization is intended to give the system operators a basic overview of the operation and maintenance of the new instrument, system, and software. Familiarization is not intended or designed to substitute a full operator training course. Familiarization will take up to a maximum of two hours.

We cannot guarantee a complete installation or demonstration if the site requirements are not met. If you have any questions, please do not hesitate to contact your local Biotage® 1-Point Support™ group.

Please use the checklist below to track progress of both the installation and familiarization and fill out this form electronically. A printed copy should be signed by both the Field Service Engineer and Customer and given to the Customer after completion.



Installation Checklist

Shipping Review

✓ Tasks	Notes
Inspect the shipment carefully and verify that entire order has been received.	Use the packing lists to confirm that no items are missing. Inspect for any damages due to shipping. If the packaging or the instrument has been damaged, confirm with the customer that the receipt of Instrument document was completed and that a claim was initiated with the shipping company.
Inspect the shipping containers for damage and review contents for internal damage.	

Site Preparations

✓ Tasks	Notes
Ensure that the site requirements are met and that the final instrument location is accessible and ready for installation.	If available, review the site preparation checklist document signed by the Customer.
Ensure that N ₂ gas is present at a pressure of 6 +/- 0.2 Bar.	Other inert gas option may be chosen.
Ensure that Air is present at a pressure of 6 +/- 0.2 Bar with flowrate at 5 L/min	
Ensure that the N ₂ gas fulfils the quality required according to ISO 8573-1, classification 1-6-1. Indicate if not used.	If the gas applied is not according to class x-6-x, an air dryer needs to be ordered separately (P/N 416441SP).

Mains Voltage Supply

✓ Tasks	Actual VAC	Notes
120–240 VAC, 50/60Hz, 300 VA		
L1 to neutral is between 100 and 120 VAC.		Verify the mains supply prior to physical connection of the instrument and pump to the lab supply voltage.

Environmental Conditions at Room Temperature

✓ Tasks	Actual VAC	Notes
Temperature is between 18 and 32 °C.	_____	In the event the lab is not equipped with temperature and humidity measurement devices or the lab conditions are outside of the specified control limits, a deviation to this installation must be documented.
Humidity is between 10 and 90% RH.	_____	

Unpacking and Lifting the System

✓ Tasks	Notes
Remove the Packing and accessory Box	
Carefully lift the Extrahera LV-200 by using the handles and place it in a well-ventilated fume hood or an equivalent enclosure.	Two or more persons are needed when lifting the system. The weight of a system is 80 kg (176 lbs).
Level the system by adjusting the height of the feet.	Pay particular attention to the foam insert that holds the robot in position.
Prepare for ventilation connections if the system is to be installed on a benchtop (outside a fume hood or equivalent enclosure).	The ventilation system or fume hood must be capable of exhausting 6 cubic meters/min (212 cubic feet/min). The outer diameter of the air duct adapter is 159.0 ± 0.3 mm (6.26" \pm 0.01"), and the inner is 152.7 ± 0.3 mm (6.01" \pm 0.01").

System Set-up

✓ Tasks	Notes
Install the screen.	
Electrical connections.	
Computer connections,	
Gas connections (N ₂).	
Pneumatic connections (Air or N ₂).	Detailed instructions can be found in the service manual and in the getting started guide.
Waste kit connections.	
House vacuum or external vacuum pump.	
Install the solvent racks and tip racks.	
Set up the tubing connection and solvents.	

System Start-up

✓ Tasks	Notes
Turn on the system.	All test results shall be noted and recorded.
Verify that the system start up with no issues or error codes.	
Verify that the external vacuum pump or house vacuum is initialized.	
Verify that the installed versions of Software and OS are the latest.	If a later SW version is available, upgrade the system.
Check that Solvent bottles are connected to the solvent tubing.	
Verify that the Solvent feeder is inserted and active.	
Set system date and time.	
Set the serial number of the unit.	
Check and record the Robot Calibration parameters.	System has been calibrated at factory.

System Verification and Functional Testing

✓ Tasks	Notes
Prime/flush all five solvent inlet lines with 25 mL of methanol. Empty the reservoirs and repeat twice.	
Verify that all 5 solvents pumps are functional.	
Prime/flush all five solvent inlet lines with 25 mL of water. Empty the reservoirs and repeat twice.	
Empty the solvent reservoirs and flush the five solvent inlet lines again with 25 mL of water.	All test results shall be noted and recorded
Verify visually that all solvents levels are approximately equally filled. Clean & Primed Solvent System Performance.	All tests are detailed in the Installation checkout document.
Perform the Pressure Head Function Test.	
Verify the functionality of the Waste valve. The valve should open and close without restriction.	
Perform a Pipette Performance Test.	

Record Section

System Information

Extrahera LV-200 Serial #	_____	
Application SW Version	_____	
Controller FW Version	_____	
Mover FW Version	_____	
Pumper FW Version	_____	
OS version	_____	
Clean & Primed Solvent System Performance Checked (Yes/No)	Yes	No
Waste Valve Function (Pass/Fail)	Pass	Fail
Pipetting Performance Test Result (Pass/Fail)	Pass	Fail
Calibration coefficient (K)	_____	
Calibration offset (M)	_____	

Extrahera Pipette Performance Test

The result of the Pipette Performance Test shall be recorded below and the data sheet attached as an appendix to this Installation document.

Analysis	% CV Pass/Fail		% Accuracy Pass/Fail		Date of Test
	Pass	Fail	Pass	Fail	
Channel 1	Pass	Fail	Pass	Fail	_____
Channel 2	Pass	Fail	Pass	Fail	_____
Channel 3	Pass	Fail	Pass	Fail	_____
Channel 4	Pass	Fail	Pass	Fail	_____
Channel 5	Pass	Fail	Pass	Fail	_____
Channel 6	Pass	Fail	Pass	Fail	_____
Channel 7	Pass	Fail	Pass	Fail	_____
Channel 8	Pass	Fail	Pass	Fail	_____

Familiarization Checklist

To review with the operator/operators

1. System Overview and Hardware Familiarization

✓	Tasks	Notes
	Hardware Overview.	Review with the customer what equipment they have and explain the function.
	Specifications overview.	Review the system specifications.
	System startup and shut down procedures.	
	Show Solvent Pumps and feeder.	
	Show the Z head/Robot functions.	
	Show the pressure plate and the procedure to remove and replace it.	
	Show the Carousel, Lifter and door.	

2. Software Overview

✓	Tasks	Notes
	Show and Explain the Options in the Main Menu:	
	Run Single Method	
	Reports	
	Manage Methods	Show and Explain all the tabs in each of the options.
	Data Administration	
	About	
	System Administration	Show and Explain Pump Calibration Notifications

Methods & Run

- Explain and show how to create a Method.
- Explain how to run a Method.
- Show the preparation steps before executing a run.

3. Safety and Safe Operation Overview

✓	Tasks	Notes
	Review the safety precautions necessary when working with the Extrahera LV-200.	Use the Installation and safety guide.

4. Maintenance and Troubleshooting

✓ Tasks

- Show and Explain the Maintenance tab in the Main Menu.
- Show maintenance procedure and best practice.
- Explain Log files for error reporting and how to access it.

Notes

This checklist confirms familiarization has been provided as outlined in this document. Any further training if required is covered in advanced user training.

Company Name and Location _____

Customer Name _____ **Date** _____

Field Service Engineer _____ **Date** _____

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